

ABSTRACT OF THE DISCLOSURE

An adaptive antenna system includes N antennae, N forward equalizers operatively coupled to a respective one of the N antennae, and N processors performing a constant modulus algorithm (CMA) to thereby generate N respective control signals which adapt coefficients associated with each respective one of the forward equalizer. Preferably, the adaptive antenna system also includes a sampling device receiving a signal based on the collected output of the N forward equalizers, and a feedback equalizer receiving an output of the sampling device and generating a feedback signal biasing the signal received by the sampling device. If desired, the N control signals are applied to the N respective forward equalizers during a first operating mode, and a selected one of the N control signals is applied to the N forward equalizers during second mode of operation. A method of operating a beamforming antenna system is also described.